

REMARKS

Upon entry of the present amendment, Amendment-D, the claims in the application are claims 2-12 and 14-18 and 20-23, of which claims 3-5 are independent. Claims 4 and 5 have been allowed, which applicant gratefully acknowledges. Claims 13 and 19 were cancelled in previous amendment.

Amendments

In the specification, the paragraph beginning on page 1, line 15, has amended to correct a typographical error.

In the claims, claim 3 has been amended herein to further define that each said mobile repeater station is operable with any of said portable communication terminals, in land mobile satellite communication system of the claimed invention. Claims 4 and 5 have been amended for consistency and for correcting antecedent basis errors.

Applicant respectfully submits that the above amendments are fully supported by the original disclosure including drawings, and that no new matter has been introduced into the application by amending the claims.

Claim Rejections

1. In the Office Action (page 2, item 2), the Examiner rejects claims 3, 14-16, 21-23 under 35 USC § 103(a) as being unpatentable over Karabinis (US 5,937,332) in view of Marko (US 6,510,317).

In his rejection of claim 3, the Examiner states that Karabinis teaches the land mobile satellite communication system (Fig. 2) comprising: at least one communication satellite station

(satellite 110); a plurality of portable communication terminals 120 for communicating with each other through communication link to be formed to include at least one communication satellite station; and a plurality of mobile repeater stations 200 mounted on mobiles located on the earth for repeating a communication in the communication link formed between the portable communication terminals and including at least one communication satellite station.

Further, according to the Examiner's interpretation, Marko discloses a communication link between any specific one of the communication terminals 20 and any specific one of said at least one communication satellite station (12, 14), and such links can be established via a plurality of communication channels, respectively, including different ones of the mobile repeater stations 16. Therefore, according the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Karabinis with the above teaching of Marko, in order to improve signal reception quality at the communication terminal by using diversity receiving technique.

In the rejection of claims 14-16, the Examiner states that Karabinis teaches the mobiles are vehicles, the power supplies of the vehicle provide power to the mobile repeater station and the mobile repeater station include high frequency plane antenna; and in the rejection of claims 21-23, the Examiner states that the combination of Karabinis and Marko discloses the claimed limitation.

Applicant's Response:

The applicable standard for establishing a *prima facie* case of obviousness

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. See *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary

skill in the relevant art having the references before him to make the proposed combination or other modification. See *In re Lintner*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis, with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968).

The Federal Circuit has repeatedly cautioned against employing hindsight by using the appellant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. See, e.g., *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988). When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.'" *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Applicant respectfully suggests that the Examiner appears to be evaluating applicant's

invention using improper hindsight, picking and choosing selected portions of the references and combining those selected portions to reconstruct a mosaic of applicant's invention. Applicant respectfully suggests that such an approach is not consistent with the standards set out in the above-quoted cases of the CAFC.

Furthermore, applicant has further amended claim 3 to specify that each said mobile repeater station is operable with any of the portable communication terminals.

Upon careful consideration and in light of the above amendments, applicant respectfully submits that the rejection is overcome, and that claim 3 is patentably distinct over the disclosures of Karabinis and Marko for several reasons, including those given below.

Initially, Karabinis' repeater and method are fundamentally distinct from the claimed invention because he discloses the repeater for use within a satellite communication system. Karabinis' repeaters are clearly described as devices which merely receive, amplify, and locally transmit signals to and from communications satellites. Further, Karabinis does not teach anything related to different frequencies of carrier waves.

Still further, Marko discloses receivers 20 that may be located in automobiles, handheld or stationary units for home or office use, and the satellite digital audio service system receivers 20 are designed to receive one or both of satellite signals and signals from terrestrial repeaters, and combine or select one of the signals as the receiver output (col. 3, lines 52-58 and Fig. 1).

Although, Marko discloses the repeaters, he fails to disclose a plurality of communication channels for establishing a communication link between any specific one of the communication terminals and any specific one of the at least one communication satellite radio station.

Therefore, any hypothetical combination of the teachings of Karabinis and Marko based on the actual teachings of these references does not achieve the claimed invention, particularly as

recited in claim 3.

Moreover, in the claimed invention (claim 3), as amended, each mobile repeater station is operable with any of said portable communications terminals. In general, however, no special relationship exists between a driver of an automobile which carries a mobile repeater station and user of the portable communication terminals who communicate using their own portable communication terminals through communication links formed to that mobile repeater station. Therefore, claim 3 is believed to be further patentably distinct over the prior art.

Also, the claimed invention as recited in claims 14-16 and 21-23 is patentably distinct over disclosures of Karabinis and Marko, either considered singly or in combination, for those reasons discussed in relation to claim 3. Also, the references fail to disclose that the repeater stations include high frequency plane antennas, as recited in claim 16.

For all of the foregoing reasons, claims 3, 14-16 and 21-23 are believed to be clearly patentably distinct over Karabinis in view of Marko, and accordingly applicant requests reconsideration and withdrawal of the rejection of these claims under USC § 103(a).

2. In the Office Action (page 3, item 3), the Examiner rejected claims 2 and 6-12 under 35 USC § 103(a) as being unpatentable over Karabinis in view of Marko and Wescl (US Publication Number 20040157554).

Applicant's Response:

Upon careful consideration and in light of the above amendments, applicant respectfully submits that the rejection is overcome, and that claims 2 and 6-12 are patentably distinct over the disclosures of Karabinis and Marko for the reasons discussed in relation to claim 3, hereinabove, and for the followings reasons.

Initially, although, Karabinis as modified by Marko teaches a plurality of communication

satellite stations, Wesel fails to teach each of satellite station having a means for communicating with each other through inter-satellite links, particularly as required by claim 2.

Rather, Wesel teaches a communication system 10 having a plurality of communication satellites, both in geostationary earth orbit (GEO) 12 and in non-geostationary or in non-geostationary earth orbit (NGSO) 14 and 15, a ground station 16 for controlling and maintaining operation of the satellites 12, 14 and 15, and user terminals in the form of either mobile devices 18 or portable devices 20, and a system access node 22 situated in each region serviced by satellites 12, 14, and 15. Wesel also teaches positioning of satellites 12, 14 and 15 in two different constellations to provide efficient global coverage.

Thus, the applied references of Karabinis, Marko and Wesel, either considered singly or in combination, fail to teach the each satellite station having a means for communicating with each other through inter-satellite links.

Further these references do not provide reasons, suggestions or motivations to include the means for communicating with other stations through inter-satellite links as taught by Wesel within system disclose by Karabinis because of the stated limited function of the Karabinis's repeater, that is, a device for signal reception, amplification and transmission only.

Regarding claim 6, in the satellite communication system of Karabinis, a repeater 200 is provided to increase the ability of uplink signals 180 and downlink signals 170 to compensate for shadowing and or blockage caused by terrain, trees, foliage, and buildings thus effectively increasing the link margin between satellites 110 and hand-held radiotelephones 120.

Karabinis further discloses that amplified and retransmitted downlink signals 175 may be received by any number of radiotelephones 120 within the effective signal radius of the satellite telecommunications repeaters 200, and that the satellite telecommunications repeaters 200 also

receive uplink signals 180 from one or more radiotelephones 120 by way of at least one uplink signal receiving antenna 300 (col. 4, lines 61-67 – col. 5, lines 1-21, col. 6, lines 11-14, Fig. 2).

Thus, Karabinis fails to teach that the portable communication terminals include a means for communicating with the mobile repeater stations and conventional land mobile communication systems, as recited in claim 6.

Regarding claim 7, Karabinis never discloses the repeaters having a means for converting frequency and modulation for communication by changing software to allow communication with conventional land mobile systems.

Rather, Karabinis specifically discloses that there is no further processing of the actual signal. Also, Karabinis discloses that the satellite telecommunications repeaters 200 receive uplink signals 180 from one or more radiotelephones 120 by way of at least one uplink signal receiving antenna 300, and that after the uplink signal is received by the uplink receiving antenna 300, the signal is passed through a filter 310 to eliminate noise and out of band signals (col. 6, lines 11-23). Thus, Karabinis repeaters do not include means for converting frequency and modulation, as required by claim 7.

Regarding claims 8 and 9, Karabinis fails to teach a repeater that is able to aim its antenna based on a position data received from the satellite, and in fact, Karabinis teaches manual adjustment of the orientation of the repeater housing to obtain an optimal signal (col. 9, lines 13-49, Fig. 7). None of the references of Karabinis, Wesel and Marko or a combination thereof, teaches any feature corresponding to the satellite position information transmitting means or the capability of the mobile repeater aiming an antenna based on this transmitted information, as required by each of claims 8 and 9.

Regarding claim 10, Wesel does not teach any feature corresponding to use of Proxies or

Peering points in order to gain accessibility to land telephone systems or the internet as recited in claim 10. Instead, Wesel teaches that the user terminal 18, 20 can transmit different types of signal and that the terminal may select which type of signal to transmit (page 4, paragraph 0042). Thus, claim 10 is patentably distinct over the applied references.

Regarding claims 11 and 12, although, Karabinis teaches a repeater, his repeater performs a stated limited function, specifically to only receive, amplify and transmit data. Karabinis, thus, fails to teach the satellite communication station having a means for storing data and acting as a server, as required by claim 11. Further, Karabinis fails to teach mobile repeater stations having a means for responding to a request from the communication satellite stations and/or portable communication terminals and for functioning as providers, as required by claim 12.

For all of the foregoing reasons, claims 2 and 6-12 are believed to be clearly patentably distinct over Karabinis in view of Marko and Wesel, and accordingly applicant requests reconsideration and withdrawal of the rejection of claims 2 and 6-12 under USC § 103(a).

3. Also in the above-identified Office Action (page 6, item 4), the Examiner rejected claim 17 under 35 USC 103(a) as being unpatentable over Karabinis in view of Marko and Lorbeck (US Patent Publication No. 2003 0114135).

Applicant's Response:

Upon careful consideration and in light of the above amendments, applicant respectfully submits that the rejection is overcome, and that claim 17 is patentably distinct over the disclosures of Karabinis and Marko for the reasons discussed in relation to claims 2 and 3, hereinabove, which are not overcome by additional teachings of Lorbec.

These references, either considered singly or in combination, fail to teach the communications between the portable communication terminals and the mobile repeater stations

use S or near S frequency band ranging from 1-10 Ghz, and communications between the low earth communication satellite station and the mobile repeater stations use high frequency Ku band, as recited in claim 17.

For all of the foregoing reasons, claim 17 is believed to be clearly patentably distinct over Karabinis in view of Marko and Lorbeck, and accordingly applicant requests consideration and withdrawal of the rejection of claim 17 under USC § 103(a).

4. Further in the above-identified Office Action (page 6, item 5), the Examiner rejected claims 18 and 20 under 35 USC 103(a) as being unpatentable over Karabinis in view of Marko and Wilson (US Patent 6,141,533).

Applicant's Response:

Upon careful consideration and in light of the above amendments, applicant respectfully submits that the rejection is overcome, and that claims 18 and 20 are patentably distinct over the disclosures of Karabinis and Marko for the reasons discussed in relation to claims 2 and 3, hereinabove, which are not overcome by additional teachings of Wilson.

These references, either considered singly or in combination, fail to teach the repeater stations having functions of cache, proxy and server for storing transferred data, as required by claim 18; and also fail to teach the communication link which is selectively established via the one of the plurality of communication channels including said mobile repeater station with appropriate proximity to the specific communication terminal and giving highest signal quality, as required by claim 20.

For all of the foregoing reasons, claims 18 and 20 are believed to be clearly patentably distinct over Karabinis in view of Marko and Wilson, and accordingly applicant requests

consideration and withdrawal of the rejection of claims 18 and 20 under USC § 103(a).

Conclusion

In conclusion, applicant has overcome the Examiner's rejection as presented in the Office Action; and moreover, applicant has considered all of the references of record, and it is respectfully submitted that the invention as defined by each of the present claims is patentably distinct thereover.

Applicant respectfully submits that all of the above amendments are fully supported by the original application. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

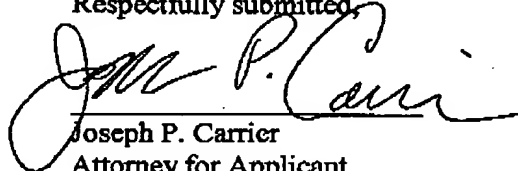
The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that he telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

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